



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,256	01/19/2006	Donald Edwin Hargraves	2974/5US	7969
23638	7590	03/06/2009	EXAMINER	
ADAMS INTELLECTUAL PROPERTY LAW, P.A. Suite 2350 Charlotte Plaza 201 South College Street CHARLOTTE, NC 28244			FREAY, CHARLES GRANT	
			ART UNIT	PAPER NUMBER
			3746	
			MAIL DATE	DELIVERY MODE
			03/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,256	HARGRAVES ET AL.	
	Examiner	Art Unit	
	Charles G. Freay	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 05 December 2008.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 3-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 3-20 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 5, 2008 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 4, 10-13, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolt (USPN 5,785,508) as evidenced by Jang, Riffe and Kandpal.

Bolt discloses a pump assembly having first and second inlet band discharge valves clearly shown in Fig. 1. There is a pump head 8 having a first recess and a pump head 9 having a second recess. The recesses cooperating together to form a valve pocket. Bolt discloses an elastomeric (col. 3 lines 48 and 49) flexible valve member. As shown in Fig. 2 the dimensions of the valve compartment are such that the travel of the valve will be a distance which is very similar to the thickness of the valve. Fig. 3 also discloses a projection extending from the upper surface of the compartment which is intended to limit the travel. . Bolt does not set forth that the stroke length is less than 1.6 times the valve thickness or ranged from about 0.19 to about 0.93 times the thickness of the valve element. However, since the general conditions of the claimed invention are disclosed in the prior art, the examiner takes the position that the claimed numerical values are merely an optimum or workable range which involves only routine skill in the

art. Hence, it would have been obvious to one of ordinary skill in the art at the time of the invention to limit the stroke length of the valve elements by to conducting multiple experiments using different flexible materials with different stroke lengths to deduce the optimum or workable range for the stroke length. References are added as evidence that it is desirable to limit valve travel to a minimum. Jang (col. 1, lines 40-43), Riffe (col. 2 lines 45-51) and Kandpal (col. 1 lines 5-10).

Claims 5-9 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bolt as applied to claims 10 and 19 above, and further in view of Brand et al and Knox et al.

As set forth above Bolt discloses the invention substantially as claimed but does not disclose the material the valve elements are made out of. However, the reference of Brand et al, which is directed to a check valve assembly, and the reference of Know et al, which is directed to a diaphragm, disclose that the valve element could be constructed from an elastomer such as ethylene propylene diene terpolymer (diene side chain), fluoroelastomer, perfluoroelastomer, and silicone. See Brand et al col. lines 28-35 and Knox et al col. 1 lines 50-60, col. 4 lines 61 to col. 5 line 6 and col. 11 claim 2. At the time of the invention it would have been obvious to one of ordinary skill in the art to have made the valve elements from the elastomers taught in Brand et al and Knox et al to provide a durable flexible material for the valve.

Regarding claims 9 and 18, Brand et al teaches in the disclosure that the valve elements have a durometer hardness from about 30 to 100 on the Shore A scale, which covers the claimed range. See Brand et al col. 3 lines 35-40.

Response to Arguments

Applicant's arguments with respect to claims 3-20 have been considered but are moot in view of the new ground(s) of rejection.

The declaration filed under 37 CFR 1.132 of December 5, 2008 was sufficient to remove the applicant's admitted prior art as a prior art reference. However, as set forth above the structure shown in the applicant's admitted prior art was previously taught by references such as Bolt.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pelmulder et al and Myers discloses flexible check valves having limited travel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles G. Freay whose telephone number is 571-272-4827. The examiner can normally be reached on Monday through Friday 8:30 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/
Primary Examiner
Art Unit 3746

CGF
March 2, 2009